

XIII. *Further additions to the Rev. T. A. Marshall's Catalogue of British Ichneumonidæ.* By JOHN B. BRIDGMAN, F.L.S.

[Read July 7th, 1886.]

SINCE the appearance of my last list of additions I have examined a very large number of British *Ichneumonidæ*, and, as might be expected from the very little attention which has been bestowed on this division of Entomology in this country, I have detected many species which have not hitherto been recorded as British; while some have been met with which appear to me to be undescribed. Professor C. G. Thomson has very kindly examined many insects for me, principally *Cryptides* and the genus *Mesochorus*, and the result of his examination I have in many instances recorded in this paper. I am very deeply indebted to Mr. W. H. B. Fletcher for the trouble he has taken in saving for me the parasites he has bred, which last year amounted to more than 1000, and, as in most instances the name of the host was added, much valuable information has been obtained. My thanks are also due to Messrs. Atmore, Bignell, Billups, Cross, Griffiths, Harwood, Porritt, and many others for insects kindly sent me.

Ichneumon bimaculatorius, Panz.

I took a female of this handsome little ichneumon at Brundall, near Norwich, on September 17th, 1884.

Trogus exaltatorius, Panz.

I have a fine female of this *Trogus*, given to me by Mr. G. C. Bignell in 1882. It is very like *lutorius*, but is larger, has the cloud at the apex of the wings more distinct, and different sculpture at the back part of the metathorax.

Ichneumon magus, Wesm.

Wesm., Ich. Miscel., 31, 24, ♂, ♀; Holm., Ich. Succ., 148, 87, ♂, ♀.

Mr. W. H. B. Fletcher bred the female of this species from *Padisca solandriana*. These Scotch specimens differ slightly from Wesmael's and Holmgren's descriptions: they both give the hind femora as nigro-piceous; in my specimens the hind femora are dark red, one of them is fuscous in the middle, the abdomen of one has the apex of the 1st segment and all the rest of the abdomen palish chestnut; the other two have the same coloured abdomen, but the segments have a more or less distinct fuscous band in the middle. All three vary in this respect, so that perhaps the described coloration may occur in this country. The above were taken at Rannoch.

Apæcticus inclytus, Wesm.

Wesm., Ich. Plat. Eur., 34, ♂; Brischke, Ich. d. Prov. W. u. O-Preuss, 52, ♂.

Mr. Thouless took a specimen at Lakenham, near Norwich, in 1885.

Phæogenes modestus, Wesm., ♂, ♀.

Wesm., Tent., 1884, 193, ♀; Mant., 1848, 86, ♀.

Head behind the eyes somewhat swollen; supero-medial area about as broad as long or longer than broad, and sometimes broader than long, and varies from hexagonal to almost pentagonal with a blunt apex; in the female the metathorax is rugosely punctate, in the male shining and somewhat coarsely rugose, much finer in some specimens than in others; the post-petiole in the male is subglobose, longer than wide, and narrower than the female; in both aciculate, distinctly but rather irregular in the male, almost obsolete in the female, especially in the middle; remaining segments finely granular, with indications of rather coarse somewhat scattered punctures; punctures a little finer in the female than in the male; 2nd segment longer than wide, remainder transverse; mesopleura smooth and shining, with coarse not very close punctures.

♂. In coloration agrees with the female, except that the hind knees, apex of tibiæ, and tarsi of hind legs are fuscous, and the abdomen varies in colour from deep brown; incisions of anterior segments reddish, to 2nd and 3rd segments almost entirely dull

red; this latter variety appears to be scarce, and the former to be the normal coloration. In the female the white on the middle joints of the antennæ is sometimes almost obsolete.

These were bred by Mr. W. H. B. Fletcher, from *Euchromia flammea* from Rannoch, in June.

Phæogenes nitidus, n. s.

Niger, pedibus rufis, coxis et trochanteribus nigris, femoribus posticis nigris, basi rufa, facie flavo-picta.

Head transverse, somewhat oblique, and rather swollen behind the eyes; face and forehead smooth and shining, with a few fine scattered punctures; clypeus separated from the face by a shallow depression; apex truncate; labrum slightly projecting; antennæ not quite so long as the body. Thorax: mesonotum somewhat smooth and shining, with very fine rather scattered punctures; scutellum almost free from sculpture of any sort; metathorax smooth and shining, with faint traces of rugæ; supero-medial area transverse, rounded in front, slightly concave behind, somewhat kidney-shaped; lateral area distinctly subdivided; mesopleuræ smooth and shining, with scattered punctures (these denser behind than in front). Post-petiole of abdomen is about as wide or a little wider than long, sides parallel, and has a depression in the middle, slightly tridivided, smooth and shining, with a few scattered punctures; 2nd segment longer than wide, remainder transverse; 2nd, 3rd, and 4th segments finely and rather closely punctate; interstices almost smooth and shining; apex and sides of abdomen pubescent; 2nd segment with a faint transverse depression before the base; thyridii distinct and reddish. Legs moderate.

Black; mouth, clypeus, middle of mandibles, facial orbits more or less, and two spots below the antennæ, yellow; scape of antennæ beneath red; flagellum beneath reddish; incisions of 1st and 2nd segments reddish. Legs red; coxæ and trochanters black; apex of the latter reddish; apex of hind tibiæ and hind tarsi fuscous; hind femora in one specimen black, extreme base reddish; in the other the basal half red. Stigma and tegulæ nigro-fuscous. Male. Length, 6·5 mm.

Two males bred by Mr. W. H. B. Fletcher in 1885; host unknown.

Phygadeuon rusticellæ, n. s.

This insect is a *Phygadeuon*, according to Thomson's division of *Cryptidæ*, and comes next to *P. vagans*, Gr. (Thoms., Opusc. Ent., p. 951, 25), but differs from it

in having the coxæ red, sometimes the hind pair dark at the base above, or very rarely almost entirely dark; the scape of the antennæ beneath in the male is pale yellow, and red in the female. It also comes very near to *P. austriacus*, Gr. Taschenburg, in his table (*Die Schlupf. Cryptides*), gives No. 23, "Hüften roth, wie die Spitzen der Hinterschienen, *austriacus*"; this is evidently a mistake, as both he and Gravenhorst give "legs red, coxæ and trochanters black." If Taschenburg had added after Spitzen, "und Wurzel," he would have accurately described this species.

Pedibus, abdomineque rufis, segmento primo nigro.

The antennæ, like those of *P. vagans*, are slender, rather more like a *Cryptus* than a *Phygadeuon*; head behind the eyes scarcely narrow; forehead smooth and shining; thorax shining; mesonotum finely punctated; areæ of metathorax distinct, superomedial area transverse; 1st segment of abdomen rather long and somewhat slender; post-petiole about three times as wide as the petiole; the entire abdomen smooth and shining, elongate-ovate; apex of 2nd segment the widest; aculeus fully half the length of the abdomen; legs moderate; the posterior inferior angle of discoidal cell of front wings acute; transverse anal nervure ante-furcal; legs moderate.

♀. Black; legs red, front ones paler than the hind ones; base and apex of hind tibiæ and hind tarsi brownish black; base of hind coxæ above sometimes more or less brown; scape of antennæ brownish red, dark above; flagellum brownish beneath; abdomen red; 1st segment black; stigma black.

The male differs in having the scape of the antennæ pale yellow beneath; front and middle coxæ are paler, and the hind pair darker at the base; the abdomen has only the 2nd, 3rd, and 4th segments red, and these often stained with brown.

Male and female. Length, 4—5 mm.

These were bred by Mr. W. H. B. Fletcher from old birds' nests from Bognor, and from the same host were bred two females and one male of an *Hemiteles*, which I believe to be *floricolator*. The two females differ very much from one another in colour; one has the abdomen almost black, only the two first segments reddish at the apex.

Phygadeuon sodalis, Tasch.

Tasch., Zeits. für die Gesam. Natur., 1865, 29.

This is added on the strength of a specimen received from Mr. J. E. Fletcher.

Phygadeuon brachyurus, Thoms.

Thoms., Opusc. Ent., 955, 34, ♂, ♀.

Prof. C. G. Thomson returned a small female Cryptid which I received from Dr. Capron, taken in the neighbourhood of Shiere, and a male which I took at Eaton, near Norwich, as the above species.

The insect which I named *Hemiteles ruficaudatus*, Trans. Ent. Soc. Lond., 1883, 149, Prof. Thomson says belongs to his genus *Stylocryptus*.

Hemiteles mixtus, m., Trans. Ent. Soc. Lond., 1883, 148, he also says is a *Phygadeuon*. It might easily be put into either genus, but the absence of the outer nervure of the areolet induced me to include it in *Hemiteles*; this latter is far from being a good genus, as many insects are found that would easily go into either one or the other. The extremes of either are very decided, but the intermediate forms are far from being so.

Phygadeuon brevitarsis, Thoms.

Thoms., Opusc. Ent., 959, 46.

This insect I thought was a var. of *P. nitidus*, but Prof. Thomson returned it with the above name.

Hemiteles cynipinus, Thoms.

Thoms., Opusc. Ent., 997, 26, ♂, ♀.

This and the following were kindly named for me by Prof. Thomson.

Taken in the neighbourhood of Norwich.

Hemiteles Gyrini, Parfitt.

Thomson thinks this is most probably *Hemiteles argentatus*, Gr.

Hemiteles gracilis, Thoms.

Thoms., Opusc. Ent., 989, 60, ♂, ♀.

This species I had considered *H. micator*, Gr.

Hemiteles validicornis, Thoms.

Thoms., Opusc. Ent., 995, 76, ♀.

This species I considered *H. melanopygus*, Gr., and do not see in what respect it differs from Gravenhorst's description of that insect.

Hemiteles balteatus, Thoms.

Ann. Soc. Ent. d. France, 28, 14.

This I took at Heigham, near Norwich. Female.

Hemiteles capreolus, Thoms.

Thoms., Opusc. Ent., 970, 8, ♂, ♀.

The female was taken in the neighbourhood of Shiere by Dr. Capron; the male I took myself near Norwich.

Hemiteles scabriculus, Thoms.

Thoms., Opusc. Ent., 969, 6, ♂, ♀.

Taken in the neighbourhood of Norwich. Female.

Hemiteles minutus, n. s.

Nitidus; niger; pedibus anticis ex parte piceis.

Very smooth and shining; head subquadrate, not quite so wide as the thorax; face quadrate, rather protuberant; space between the eyes and mandibles about equal to the space between the base of the two mandibles; clypeus scarcely divided from the face; antennæ a little shorter than the body; scape rather longer than wide, notched outside; flagellum somewhat filiform, thinner at the base than the apex, slightly attenuated at the apex; 1st joint about four times as long as wide, remainder gradually decreasing in length. Parapsides of thorax somewhat distinct in front; mesonotum covered with very fine pubescence, and almost obsolete punctures; thorax longer than high; metathorax with two distinct transverse ridges; supero-medial area defined by two longitudinal converging lines, wider in front than behind, and a little wider than long, very finely punctate or with very fine rugæ, either only just

perceptible; posterior surface divided into three areæ; metathorax transverse. Abdomen ovate, about as long as the head and thorax, and a little wider than the latter; 1st segment slender; post-petiole very little wider than the petiole; spiracles hardly projecting, placed just behind the middle; remaining segments transverse; apex of 2nd the widest; aculeus about as long as the 1st segment, or between one-fourth and one-third the length of the abdomen. Legs very slender. Wings without areolet; outer nervure absent; posterior inferior angle of discoidal cell subacute; transverse anal nervure not divided. The male scarcely differs from the female; the antennæ are more filiform, and the abdomen rather more cylindrical.

Black; part of front femora, tibiæ, and tarsi, piceous; sometimes hind tibiæ show faint indications of darker marks at the apex and before the base, and the 2nd segment of the abdomen is sometimes rather piceous. Tegulæ more or less piceous. Stigma fuscous, more or less diluted.

Male and female; length, about 2·5 mm.

Bred by Mr. W. H. B. Fletcher from spiders' nests taken at Worthing, which swarm on the coast.

This species appears to me to come in Phalanx 2, *ll. mm. n.* of Thomson's divisions in 'Opuscula Entomologica,' p. 989.

Pezomachus hortensis, Gr.; *P. agilis*, Thoms.; *P. spinula*, Thoms.; *P. mandibularis*, Thoms.; *P. formicarius*, Gr.

These *Pezomachi* were taken in the neighbourhood of Norwich, and were named for me by Prof. Thomson, who says the one I thought was a variety of *P. analis* is *P. faunus*, the *P. intermedius* and *P. furax* are the same species, and that *P. juvenilis* is a small variety of *P. rufulus*; he also says Foerster has made several species of *P. rufulus*. I sent to him the species which Mr. Marshall named for Mr. J. E. Fletcher as *Hemimachus trux*; this he returned to me named *P. insolens*, thus confirming my opinion. *P. trux* must, I think, be removed from our list.

Pezomachus costatus, n. s.

Rufus, capite, apice antennarum, abdominisque apice, nigris.

Head large, slightly oblique behind the eyes; antennæ about three-fourths the length of the body; 2nd joint of flagellum a little

longer than the 1st (this latter about twice as long as wide); 5th rather longer than wide; metanotum scarcely higher than the mesonotum, and nearly as long; the transverse ridge of the metanotum about half-way down the slanting part, very distinct, and in form resembles a W, at others runs almost straight across. First segment of abdomen without projecting spiracles; sides of post-petiole rather rounded and gradually increasing in width, sub-pyriform; abdomen densely pubescent, pubescence rather more scattered on the apical segments; aculeus about as long or a little longer than the 1st segment.

Black; basal half of the antennæ, thorax, three first segments of the abdomen, and legs red. Female.

Var. Like the above, but inner orbits broadly obscure red. Female; length, 5 mm.

This species comes between 33 and 34 of Foerster's table of *Pezomachus*.

This species has been sent to me by Dr. Capron, who took it in the neighbourhood of Shiere. Another specimen was sent to me by Mr. Fitch; this he received from Mr. J. E. Fletcher, and I have taken it myself; and the variety I took at Mousehold, near Norwich, in 1882.

Pezomachus vulnerans, Fst.

Mon. d. Gat. Pez., 157, 102, ♀.

Mr. T. R. Billups has taken four females of this species at Headley and Reigate.

Pezomachus immaturus, Fst.

Mon. d. Gat. Pez. 193, 150, ♀.

I have seen a female which agrees exactly with the description of the above insect, taken by Mr. Billups at Headley.

Pezomachus vagantiformis, n. s.

This insect comes next to *P. vulnerans* in Förster's table, and might be added as "thorax bicoloured" before "thorax red." In general appearance it reminds one of *P. vagans*, and most probably would have been included by Gravenhorst in that species.

Niger, pro- et mesothorace, segmento primo pedibusque rufis.

Head somewhat narrow behind the eyes; 1st joint of flagellum scarcely longer than the 2nd, about four times as long as wide;

5th about one and a half times longer than wide. Thorax somewhat elongated, the metathorax longer than the mesothorax, no trace of scutellum; a transverse line separates the superior from the posterior face of metathorax; both meso- and metanotum somewhat rounded, the latter higher than the former; thorax about twice as long as high. Abdomen rather narrow, subcylindrical, not wider than the head, pubescence dense, scarcely more scattered at the apex; the hair-pits are more strongly developed than usual; 1st segment rather narrow, about two and a half times as wide at the apex as at the base; spiracles not very distinct (from these to the apex sides straight and gradually widening); between the spiracles about twice the width of the base; remaining segments transverse; aculeus rather longer than the 1st segment.

Head black; antennæ brown, apex darker; 2nd and base of 3rd joints reddish; pro- and mesothorax brownish red; metathorax reddish brown, paler on middle of back; abdomen brown-black; 1st segment and all the margins of the 2nd red; legs red; apex of hind femora, apex and before the base of hind tibiæ, slightly tinged with brown. Female. Length, 3 mm.

Taken by Dr. Capron in the neighbourhood of Shiere, 1884.

Pezomachus Foersteri, n. s.

This very distinct species comes next to *P. spurius* in Förster's table (iv. 2, * a. b b. c.).

Niger, pedibus rufis.

Head behind the eyes rather narrow; antennæ reaching about to the apex of the 1st segment of the abdomen; 1st joint of flagellum slightly longer than the 2nd, about two and a half times longer than wide; 5th rather longer than wide; thorax rather stout, scarcely longer than high, the meso- and metathorax of about equal length; the transverse ridge of metanotum terminates laterally in a rather short acute spine; 1st segment of abdomen with spiracles scarcely projecting, about three times as wide at the apex as at the base, and about twice as long as the width of the apex; abdomen ovate; apex of the 3rd segment the widest; aculeus almost longer than the 1st segment; abdomen covered with scattered pubescence. The abdomen is the same shape as in *P. instabilis*, but the insect differs from that species in the shorter antennæ and thorax.

Black; 2nd and base of 3rd joints of antennæ and legs red; apex of hind femora, apex and before the base of middle and hind tibiæ, and apical joints of tarsi very faintly browned. Female. Length, 2.75 mm.

Taken by Dr. Capron in the neighbourhood of Shiere in 1884.

Exochilum (Anomalon) capitatum, Desvign.

Mus. Cat., 104, 5.

"Head buccated; forehead not cornuted; face slightly narrowed below; clypeus at the apex widely emarginate; antennæ shorter than the body. Metathorax with a shallow depressed line down the middle, and with rather deep longitudinal sulcations. Abdomen compressed; 1st segment nearly straight. Legs slender; femora slightly thickened; hind legs much longer and thicker than the others; first two joints of hind tarsi much thickened; 1st joint about one-fourth longer than the 2nd; the last three small, together about as long as the 2nd joint. Wings: recurrent discoidal nervure joining the 1st cubital cell in the middle; transverse anal nervure of lower wing post-furcal, and divided above the middle."

This fine species of *Anomalon*, so far as I know, has not been taken since Mr. Desvignes described it. When at the Museum two or three years ago I saw plainly that it belonged either to one of Wesmael's subgenera or to a new genus; Mr. W. F. Kirby has very kindly examined them for me, and from his description, which I give above, it is very evident that it agrees exactly with none of Wesmael's genera, but still it comes very near to *Exochilum*, and I think it will be far better to stretch that genus than to make a fresh one for it. The principal differences are that the forehead is not cornuted, the apex of the clypeus widely emarginate instead of truncate, and 2nd joint of hind tarsus is proportionately longer.

Campoplex rugulosus, Foerst.

Campoplex rugulosus, Foerst., Mon. der Gatt. Campopl., 798, 17.

I have a specimen of this species bred by Mr. F. Norgate from *Trachea piniperda*.

Campoplex uncinatus, Holm.

Skand. Art. af. Oph. Camp., 35, 11, ♂.

I have seen two specimens of this species from Mr. E. A. Fitch; and I have one given to me by Mr. G. T. Porritt, which he took at Doncaster in May, 1884.

Campoplex trisculptus, Holm.

L. c., 39, 13, ♂, ♀.

Mr. Porritt sent me this species, taken at the same locality and time as the former species.

? *Campoplex tenuis*, Foerst.

Foerst., Mon. d. Gatt. Camp., 851, 58, ♀; *Campoplex agnatus*, Foerst., *l. c.*, 852, 59, ♂; ? *C. subolicida*, Foerst., *l. c.*, 860, 65, ♀; *C. tenuis*, Holm., Skand. Art. af. Oph. Camp., 69, 31. ♂, ♀.

Mr. Fitch sent me three specimens of *Campoplex* which I believe to be this species, and I have two in my own collection.

Campoplex punctatus, n. s.

Abdominis medio rufo; pedibus maxima ex parte nigris. ♂.

Mesopleura smooth between the punctures; vertical ridge behind front coxæ indistinct; 3rd segment of abdomen convex below and without a lateral black streak. Face dull, pubescent, and finely punctate; mandibles in the middle widely yellow; palpi black; forehead finely granular, without keel; head behind the eyes oblique. Thorax: mesonotum rather coarsely but not deeply punctate; interstices reticulate; scutellum keeled laterally beyond the middle, with rather large and somewhat scattered punctures; interstices reticulate; metanotum shining, rugose, forming a network, somewhat obliterated above; supero-medial area distinctly defined within; costæ long; mesopleura rather coarsely and somewhat closely punctate; interstices almost free from any markings; disc aciculate; the vertical ridge behind front coxæ scarcely perceptible; sides of metathorax finely rugose.

Abdomen: 1st segment slender, gradually tapering from base to apex, widest just before the apex, spiracles slightly projecting, segment reticulate; 3rd segment about two-thirds the length of the 2nd, convex below; abdomen dull and pubescent; apex of 2nd segment obscurely castaneous; 3rd red, fuscous at base above, and without the lateral black streak; 4th red, with a vertical black bar in the middle, running from the lower margin almost to the centre of the back; sometimes the apical half of 4th segment is entirely black, sometimes the whole segment is red, and sometimes the apical half of the 2nd segment is red, and the 3rd entirely so. Legs black, front one partly palish red; middle tibiæ pale brownish

red; middle tarsi brown. Wings: base, squamula, stigma, and nervures brown; areolet petiolated; recurrent nervure received before the middle; transverse anal subgeniculated about one-third from the bottom; no emitting nervure. Male. Length, 9.5 mm.

Taken by Mr. Harwood.

Campoplex costulatus, n. s.

Abdominis medio rufo; pedibus maxima ex parte flavis; fronte costata. ♂.

Third segment of abdomen not concave beneath, with a lateral black streak; interstices of mesopleura reticulate; vertical ridge behind front coxæ very fine. Face dull, rough, not distinctly punctate, pubescent; mandibles yellow; palpi pale red; forehead dull and granular, with a prominent central keel, and radiating from the base of the antennæ five or six prominent costæ extending about half the distance to the anterior ocellus; sides of head behind the eyes oblique. Thorax: mesonotum finely punctate, interstices reticulate; scutellum marginated to the apex, punctate, punctures rather large and scattered, interstices almost smooth; metanotum somewhat shining, upper part with faintly impressed punctures, lower part transversely rugose; sculpture not prominent; supero-external area distinctly defined within, area dentipara scarcely defined below, depression in the middle moderate; sides of metathorax punctate; mesopleura moderately punctate, interstices reticulate; disc longitudinally aciculate; behind the front coxæ a fine vertical line.

Abdomen: 1st segment slender, tapering from the middle to the apex, widest part just before the apex; spiracles not prominent; 2nd and 3rd segments of equal length; 3rd segment slightly convex below; abdomen somewhat finely pubescent and punctate; 2nd segment clear red, apex above and lateral streak black; 3rd clear red, with a lateral streak just below the level of the spiracle; 4th red, apex black; ventral segments the same colour. Legs yellow; base of front and middle coxæ brownish red; front and middle femora inclining to red; hind coxæ, trochanters, femora, black; base and apex of hind tibiæ and hind tarsi brownish. Wings: base and squamulæ reddish yellow; stigma brownish red; nervures brown; areolet very shortly petiolated; recurrent nervure received before the middle; transverse anal almost straight, obscurely divided not far below the middle; emitting nervure almost indistinct. Male. Length, 11 mm.

One specimen taken by Mr. Harwood.

Campoplex femorator, n. s.

Abdominis medio rufo, pedibus rufo nigroque variis, femoribus posticis apice rufis. ♂, ♀.

Mesopleura with the interstices between the punctures faintly reticulate, with a distinct vertical costa behind the front coxæ; the lower margins of the 3rd abdominal straight. Forehead with a vertical ridge; face punctate, pubescent; forehead reticulate, dull, obscurely punctate, behind the eyes somewhat oblique; mandibles yellow in the middle; palpi of male yellow, female brown. Thorax: mesonotum finely punctate, interstices reticulate; scutellum margined at the base only, punctate, interstices reticulate; metanotum shining, irregularly rugose, not coarsely so, much smoother above than below; supero-external area not closed below; area dentipara clearly defined, except above depression, in the middle not deep; mesopleura moderately punctate, interstices very finely reticulate, almost shining; a distinct vertical ridge behind the front coxæ.

Abdomen: 3rd segment almost straight beneath; in the female the 2nd segment a little longer than the 3rd, in the male the 2nd one-third longer than the 3rd; female: apex of 2nd and the 3rd segments darkish chestnut, the latter obscure at the apex and base of lower margin; 4th obscurely chestnut laterally at the base; male: apical half of the 2nd, all the 3rd, and basal half of 4th segments red, the latter black above; 2nd and 3rd segments with a lateral black streak; the coloured segments of both sexes the same colour beneath, the abdomen smooth and shining, post-petiole with rounded sides; aculeus of female rather more than one-third the length of the 1st segment. Legs, female: front pair red, coxæ and trochanters black; middle pair red; coxæ, trochanters, and basal half of femora black; hind pair black; knees and middle of tibiæ deep chestnut. Male: front and middle pair yellow; base of coxæ black, and greater part of femora red; hind pair, coxæ, trochanters, and basal half of femora black; apex of femora red; tibiæ yellow, extreme base, apex, and tarsi chestnut. Wings: areolet rhomboidal, petiolated, petiole about the length of one-third the distance from the radial nervure to the recurrent discoidal nervure, which joins the areolet just before the middle; transverse ordinary nervure not interstitial; transverse anal divided below the middle at one-third from the lower nervure, which runs beyond the transverse anal nervure; squamulae of male yellow, female black; stigma red, nervures dark. Male and female. Length, 19 mm.

I have seen several specimens from Mr. Harwood, of

Colchester, who could not give the host they were bred from or the locality; also a female from Mr. Bignell, taken in Devonshire.

Thymaris fasciatus, n. s.

Thymaris is one of Foerster's subgenera of *Campoplegoidæ*; it is a subdivision of *Cymodusa*: wings without an areolet, and post-petiole with a transverse depression. Foerster has described no species of the genus, and the only described species I know of is one by Brischke, which has pale legs.

Niger, abdomine rufo fasciato.

Head subnucated; eyes finely pubescent; behind the eyes not oblique; space between the eyes and the base of the mandibles about equal to the width of the mandibles; apex of clypeus rotundate; teeth of mandibles of equal length; face moderately pubescent. Supero-medial area of metathorax pentagonal, rather wider than long; lateral area imperfectly divided, the lower half with fine transverse rugæ; supero-medial area not completely closed behind; postero-medial area transversely rugose, very slightly depressed in the middle; mesopleura opaque, finely punctate, towards the front finely rugose; disc smooth and shining. First segment of abdomen slender; petiole about half the width of the post-petiole, which is nearly twice as long as wide; sides parallel; just behind the middle is a distinct transverse depression; the 2nd segment twice as long as wide; 3rd rather longer than wide; the remainder transverse; abdomen finely pubescent. Legs slender. Wings without an areolet; transverse anal nervure not divided.

Black; middle of mandibles red; front legs pale red; coxæ, base of trochanters, and base of femora black; middle legs the same colour, but the black a little more extensive, and apex of tibiæ and apex of tarsi brownish; hind legs black; apex of trochanters, middle of tibiæ, calcaria, and extreme base of tarsi, palish red. Abdomen with a red band at the apex of the 2nd segment, and a band below the middle of the 3rd segment, not extending to the apex, and obscure indication of a similar band on the 4th segment. Base of wings pale; squamulæ black; stigma pale brown. Male. Length, 7 mm.

A single specimen was taken by Mr. Thouless in Norfolk in 1884.

Sagaritis punctata, n. s.

Niger; pedibus rufis coxis et trochanteribus posticis nigris, tibiis posticis albo-annulatis.

Subopaque; head transverse, somewhat oblique behind the eyes; face slightly pubescent; antennæ filiform, slightly attenuated at the apex, as long as the head, thorax, and first two segments of the abdomen; teeth of mandibles of equal length; a slight groove between the clypeus and the face; apex of clypeus strongly pointed. Mesonotum opaque; metanotum rather short, rounded, areæ more or less distinct; supero-medial area wider than long, obtuse at the apex, opaque, reticulate, with almost obsolete transverse striations; mesopleura somewhat shining, finely reticulate; disc smooth and shining. Abdomen elongate-ovate, almost cylindrical in the male; petiole of 1st segment about the same length as the post-petiole and about one-fourth the width of it, the latter subquadrate or a little longer than wide, sides almost parallel, more slender in the male; 2nd segment of female about one-third longer than wide, 3rd quadrate; 2nd of male nearly twice as long as wide, 3rd longer than wide, apical segments somewhat compressed; aculeus a little longer than the 1st segment, and slightly curved. Legs slender. Areolet of wings regular, as broad as long, petiolated; recurrent nervure in or a little before the middle; external radial nervure slightly curved; transverse anal nervure divided below the middle.

Black; palpi red; mandibles in the middle yellow or piceous; legs red, coxæ and base of hind trochanters black; apex of anterior coxæ sometimes red; hind tibiæ white, base and apex black; an oval red mark at the extreme base above; hind tarsi black, basal half and calcaria white. Tegulæ yellow. Stigma fuscous. Male and female. Length, 5·5 mm.

The cocoon is opaque, pearly white, with a faint band before each end.

Bred by Mr. W. Cross, of Ely, from *Plusia orichalcea*, April 19th, 1885.

Sagaritis laticollis, Holm.

Holm., Mon. Oph. Suec., 46, 5, ♂, ♀.

One specimen of this insect was bred by Mr. Bignell, he believes from the larva of *M. typica*, obtained by Mr. Peter Inghald from the People's Park, Hull, May, 1884.

Sagaritis postica, n. s.

Nigra, pedibus rufis, basibus nigris. ♀.

Head subbuccated; face quadrate; mandibular teeth of equal length; a subdistinct ridge running from just in front of the base of the mandibles upwards and outwards towards the eyes, but not quite up to them; apex of clypeus produced into a distinct spine. Mesonotum obsolete trilobed; supero-medial area of metathorax hexagonal, longer than wide, not distinctly closed behind; lateral area divided; mesopleura opaque; disc smooth and shining; the remainder partially aciculate, most distinctly so in front of the disc; a deep strongly defined depression running from anterior margin of mesopleura half across the surface, rises from just below the level of base of front coxæ. Post-petiole of 1st segment of abdomen quite three times as wide as the petiole, longer than wide, sides subparallel, the widest part between the spiracles; 2nd segment one-third longer than wide; 3rd longer than wide; aculeus as long as the 1st segment. Wings: areolet petiolated; recurrent nervure received before the middle; transverse anal nervure geniculated, one-third from the bottom; emitting nervure all but absent.

Black; mandibles and palpi yellow; base of wings yellow, squanulæ white; stigma pale brown; legs red, coxæ black; trochanters yellow; greater part of 1st joint black; base of 2nd joint of hind ones, as well as extreme base of hind femora, slightly fuscous; middle of hind tibiæ yellow, before the base within a faint brownish stain; last joint of all the tarsi darker than the rest; belly yellow, with a lateral fuscous spot increasing in size from before backwards. Female. Length, 7 mm.

One female taken by Mr. Harwood in the neighbourhood of Colchester. The colour of the legs easily distinguishes it from any species I am acquainted with.

Limneria pedella, Holm.

Holm., Mon. Oph. Suec., 73, 35, ♂, ♀; Brischke, Die Ich. d. P. W. u. O-Preuss, 56, ♂, ♀.

Both sexes of this insect have been taken by Mr. G. C. Bignell in Devonshire.

Limneria coxalis, Brischke.

Die Ich. d. Prov. W. u. O-Preuss, 44, ♂, ♀.

Both sexes of this very distinct species have been met with by Mr. Harwood, of Colchester; and the male has

been bred by Mr. E. A. Atmore from larvæ taken in the neighbourhood of Lynn; host uncertain.

Limneria ramidula, Brischke.

Brischke, Ich. d. Prov. W. u. O-Preuss, 48, ♂, ♀.

Both sexes of this *Limneria* were bred from *Retinia pinivorana*, taken near King's Lynn by Mr. E. A. Atmore in June, 1885.

Limneria tripunctata, n. s.

Niger, pedibus rufis, coxis et trochanteribus nigris; aculeo segmento primo paulo longiore, post-petiolo subgloboso scrobiculis tribus dorsalibus.

Head transverse, rather oblique behind the eyes; face transverse, with fine white pubescence; teeth of mandibles subequal; antennæ a little more than half the length of the body. Thorax subopaque; lateral area of metathorax obsoletely divided; superomedial area as long as wide, sides parallel, not closed behind, posterior surface not depressed; mesopleura subopaque, with very fine transverse striations. Abdomen as wide as the thorax and a little longer than the head and thorax; aculeus about one-third the length of the abdomen; 1st segment moderate; petiole about as long as the post-petiole, and about one-third the width; post-petiole with rounded sides and three distinct pits at its base; 2nd segment as long as wide; remainder transverse, pubescent at the sides; apex of the 4th segment the widest. Areolet of wings petiolated; external radial nervure slightly curved outwards; transverse anal not divided. Legs rather slender.

Black; palpi and mandibles pale reddish yellow, base and apex of latter dark. Legs red; coxæ and trochanters black, extreme apex of latter reddish; extreme apex of hind tibiæ nigro-fuscous, base of latter reddish; apex of middle tarsi fuscous. Tegulæ yellowish white; stigma stramineous. Female. Length, 5 mm.

Taken at Peckham by Mr. T. R. Billups in May.

The three pits in the post-petiole readily distinguish this from any other *Limneria* I am acquainted with, although the same character is found in two other insects belonging to the allied genera of *Casinaria* and *Sagaritis*, viz., *C. senicula*, Gr., and *S. incisa*, m.

Limmeria variabilis, n. s.

Nigra, pedibus rufis, coxis et trochanteribus nigris, tarsi et tibiis posticis apice et ante basin fuscis, femoribus sæpe plus minusve fuscis aut nigris, aculeo dimidii abdominis longitudine.

Somewhat shining; head transverse, rather wider than the thorax, slightly oblique behind the eyes; face not wider than long, wider above than below; margin of eyes scarcely indented opposite the antennæ; margin of clypeus widely rotundate, with a lateral depression; face punctate, clothed with white pubescence; antennæ of male about five-sixths the length of the body, rather shorter in the female. Thorax about one-third longer than high; mesonotum reticulate, with fine scattered punctures; metathorax shining, finely reticulate; lateral areæ subdivided; supero-medial area pentagonal, longer than wide, sides somewhat parallel, not closed behind; mesopleura opaque, finely reticulate, interspersed with fine somewhat scattered punctures; disc smooth and shining. Abdomen of male subcylindrical, female fusiform; 3rd segment the widest, somewhat shining, finely reticulate; apical margin of segments smooth and shining, covered rather closely with fine white pubescence; 1st segment about as long as hind coxæ and trochanters; petiole rather stout, a little longer than the post-petiole, which is about twice as wide as the petiole or a little more, sides generally somewhat rounded; 2nd segment of female a little longer than wide, male about one-third longer than wide; gastrocæli distinct; 3rd segment of female transverse, of male subquadrate; aculeus rather less than half the length of the abdomen. Areolet of wings wide, sessile or petiolated; recurrent nervure received beyond the middle; transverse anal nervure subgeniculated, but with no emitting nervure. Legs moderate; base of claws of tarsi finely pectinated.

Black; middle of mandibles obscurely yellow or piceous; tegulæ pale piceous or yellow. Stigma fuscous, varies in depth of colour. Legs vary much in colour from red; coxæ, middle and hind trochanters, black; hind tarsi fuscous; coxæ and trochanters black; base of middle femora and hind femora almost entirely nigro-fuscous; middle and hind tibiae, apex and before the base, and apical half of joints of hind tarsi, dark brown. Male and female. Length about 4 mm.

Bred by Mr. W. H. B. Fletcher from *Gelechia notatella*, Wicken, June, 1886.

This comes very near to *L. combinata*, Holm., but has the stigma of a different colour.

Mesochorus pictus, Brischke.

Brischke, Ich. d. Prov. W. u. O-Preuss, 79, ♂.

This handsome insect has been taken by Mr. Harwood in the neighbourhood of Colchester: its proper place in Holmgren's table is *C. b.* It has the pro-, mesothorax, and scutellum red; face pale yellow; sides of thorax partly pale yellow and partly red; the third and following segments of the abdomen widely yellow at the apex; legs pale, a black streak on the hind coxæ above; apex of hind tibiæ and tarsi dark. Length, 6 mm.

Mesochorus dorsalis, Holm.

Holm., Mon. Oph. Suec., 120, 6, ♂, ♀.

This fine species has been taken by Mr. Bignell in the neighbourhood of Plymouth.

Mesochorus stigmaticus, Thoms.

This was given to me by Mr. W. Cross, of Ely, and probably came from that neighbourhood; and was bred by Mr. F. Norgate from *Orgyia antiqua*.

Mesochorus plagiatus, Thoms.

Bred by Mr. Bignell from *Odontopera bidentata* in 1882.

Mesochorus tachypus, Holm.

Bred by Mr. W. Cross from *E. Knautiata*. I have also two which Professor Thomson returned as doubtful *M. tachypus*.

Mesochorus laticeps, Thoms.

Bred by Mr. W. H. B. Fletcher from *Gelechia notatella* from Wicken Fen, June, 1885.

Mesochorus crassicornis, Thoms.

Bred by Mr. W. H. B. Fletcher from the same host as *M. laticeps*.

Mesochorus incidens, Thoms.

Taken by Mr. J. E. Fletcher. Female.

Mesochorus graniger, Thoms.

This species I considered *M. festivus*, Holm.; it was bred by Mr. Bignell from *Abraxas grossulariata*, hyperparasitic on *Exorista vulgaris*, F.

Mesochorus tenuicornis, Thoms.

Taken in the neighbourhood of Norwich.

Mesochorus temporalis, Thoms.

Bred from *Z. filipendula* by Mr. Bignell in 1878.

Mesochorus convexicollis, Thoms.

I had considered this species *M. complanatus*, Hal.: it seemed to me to agree exactly with Holmgren's description of that species, and from Thomson's description I fail to see the difference; he gives the length of his species as 4 mm. The two females I have taken are 3 mm. long.

Mesochorus fuscicornis, Brischke.

Trans. Ent. Soc. Lond., 1882, 154.

This Thomson considers to be *M. pectoralis*, H.; but in my bred specimens the hind coxæ are generally more or less piecous, a point not mentioned by Holmgren, Thomson gives the length as 5 to 6 mm.; mine do not exceed 4 mm.

I sent all my specimens of *Mesochorus* to Professor Thomson, at his request, and these new species were named by him. He has written a monograph of the genus, which has just appeared in the 'Annales de la Société Entomologique de France,' 1886, 327.

Thersilochus marginatus, n. s.

Niger, segmento secundo rufo marginato, aculeo segmento primo brevior.

Head behind the eyes slanting backwards at the sides; head and thorax subopaque, finely punctate; clypeus distinctly separated from the face; apex widely rotundate. Antennæ rather long; flagellum 26 joints, 1st joint rather more than twice as long as

wide, no joint quite quadrate. Thorax but little longer than high; metathorax slightly coarser than the rest of the thorax; supero-medial area about twice as long as wide: postero-medial area divided into three spaces; lower half of mesopleura finely rugose, upper half smooth, with rather scattered punctures. First segment of abdomen slightly curved: post-petiole nearly twice as long as wide, sides somewhat convex; the 2nd segment about as long as wide; the abdomen moderately compressed. Aculeus about two-thirds the length of the 1st segment. Legs moderate; hind tarsi longer than the tibiæ. Radial nervure almost straight, but decidedly incurved towards the base; transverse anal not divided.

Black; scape and mouth reddish; legs red, hinder coxæ black. Abdomen: apical margin of 2nd and side of remaining segments castaneous; stigma and nervures dark. Female. Length nearly 5 mm.

Three females, taken by Mr. Bignell in the neighbourhood of Plymouth, 1884.

Dicolus insectator, Foerst.

Uebersicht d. Gatt. u. Art. d. Fam. d. Plectiscoiden, 97, ♀.

Mr. E. D. Marquand has taken at Penzance, in 1883, what I believe to be this species. Foerster's descriptions are far too short (consisting of only a line or two) to remove all uncertainty.

Proclitus grandis, Foerst. ?

L. c., 116; Brischke, Die Ich. d. Prov. W. u. O-Preuss, 95.

At the end of September I took, in the neighbourhood of Norwich, a female *Plectiscus* which agrees with Foerster's description of *P. grandis*. These descriptions are contained only in a short table. It also agrees with Brischke's description of his *Proclitus grandis*, Foerst. ?

Mesoleptus gracilis, Holm.

Holm., Mon. Tryph. Suec., 103, 8; Suppl., 375, ♂, ♀.

I have taken a *Mesoleptus* at Horning Ferry, Norfolk, which I believe to be this species. Mr. G. T. Porritt has also sent me the same insect; they are females, and

have the hinder coxæ greater part dark brown. Holmgren makes no mention of this, but says the male often has the hind coxæ black above, and the face is not entirely yellow, but has the clypeus that colour, and a broadish band is continued upwards on either side of the face by the eyes.

Mesoleptus scutellatus, n. s.

This insect belongs to Holmgren's division B. **, but differs from any I can find described in having the scutellum and post-scutellum yellow.

Niger, abdominis medio, pedibusque rufis, coxis intermediis et posticis nigris, scutello post-scutelloque flavo.

Head transverse, sides oblique, slightly rounded; clypeus widely rotundate; face finely punctate, as is the forehead; vertex almost smooth, with only rather scattered hair-pits; antennæ longer than the body. Parapsides distinct; central lobe with fine rather scattered punctures; lateral lobes almost smooth; metathorax smooth and shining, with no trace of areæ. Spiracles of 1st segment of abdomen situated in the middle, about as long or a little longer than the hind coxæ and trochanters; 2nd and 3rd segments longer than wide; 5th the widest; abdomen subclavate, about three times as long as the width of the apex. Legs thicker than usual, more like a *Tryphon*; last joint of hind tarsi twice as long as the 4th. Transverse anal nervure of wings, post-furcal, divided above the middle; the external radial slightly incurved; areolet petiolated; recurrent nervure received almost at the apex.

Black; mouth, clypeus, and face yellow, the latter with a triangular black central mark on the upper part; antennæ red; scape below yellow, fuscous above; tegulae and tubercles whitish; scutellum and post-scutellum yellow; 2nd, 3rd, and 4th segments of abdomen red; legs red; trochanters yellow; coxæ black, the front ones yellow at the apex; base of wings yellow; stigma dilute fuscous. Female. Length, 8.5 mm.

I took this insect at Horning Ferry, Norfolk, on June 29th, 1882. By the stoutness of the legs it might pass for a *Tryphon*, but the 1st segment of the abdomen is too slender.

Mesoleptus marginatus, n. s.

Niger, facie macula flava, pedibus rufo flavis, coxis et femoribus posticis nigris. ♂.

Head transverse, sides slightly sloping backwards behind the

eyes; face and forehead punctate; apex of clypeus rounded, sides slightly incurved. Antennæ rather shorter than the body, filiform. Thorax shining, finely punctate; scutellum, seen sideways, appears keeled to the apex; metathorax smooth and shining, without areæ. Abdomen not quite so wide as the thorax; 1st segment rather slender, longer than the hind coxæ and trochanters; spiracles in the middle, nearly four times as long as the width of the apex; 2nd and 3rd longer than wide; 4th quadrate. Last joint of hind tarsi a little longer than the 4th, and but slightly curved. Head and sides and metathorax covered with white pubescence. Areolet of wings petiolated; recurrent nervure received almost at the apex; external radial but very slightly incurved; transverse anal opposite, divided just below the middle.

Black; mouth yellow; apex of mandibles red; spot on each side of clypeus, an oblong blotch on each side of the face, and scape beneath yellow. Legs: coxæ black; trochanters yellow, marked with black, especially the hind pair; front and middle femora, tibiæ, and tarsi, yellowish red; middle femora fuscous behind, hind femora black; hind tibiæ yellowish; apex fuscous-red; hind tarsi pale fuscous. Abdomen black; extreme apex of 2nd segment red; lower margin of 3rd faintly red; extreme margin of 5th, 6th, and 7th pale; abdomen pale beneath. Male. Length, 8 mm.

I captured this at Brundall, near Norwich, May 9th, 1881.

Euryproctus sinister, Brischke.

Brischke, Die Ich. d. Prov. W. u. O-Preuss, 36, ♀.

I took a female of this species near Norwich middle of September, 1879. I have also seen one taken by Mr. Bignell in Devonshire. Mr. J. E. Fletcher has bred both sexes from *Eriocampa varipes*. The male agrees exactly with the female, except that it has the mouth and face yellow, and the abdomen has the apex of the 1st segment narrower. Mr. Fletcher says one of his has the areolet of the right wing imperfect; Brischke says his has the left wing with an imperfect areolet. Probably specimens may be found without an areolet at all.

Euryproctus varicornis, Gr.

Gr., ii., 325, 211, ♀; Thoms., Opusc. Ent., 927, 5, ♂, ♀.

I took a male at Wimbledon, in Surrey, July, 1881. This species is very like *defectivus*, but differs in having

the head less oblique behind the eyes, the 1st segment of the abdomen wider, and base of hind femora red.

Euryproctus minutus, n. s.

Niger, abdominis medio rufo, pedibus anticis rufis, posticis nigris, tibiis rufis apice nigro, facie, coxis et trochanteribus anticis, flavis maculatis.

Head transverse, a little wider than the thorax, behind the eyes sides parallel; antennæ as long as the body. Thorax punctate; parapsides distinct, extending to beyond the middle of the mesonotum; metanotum finely rugose; superior area of metathorax, 5 distinct; supero-medial area converging in front, not closed behind, continuous with the postero-medial. Abdomen a little longer than the head and thorax, thinly pubescent; the 1st segment petiolated; spiracles distinct, placed a little before the middle; petiole cylindrical, two and a half times as long as wide; post-petiole tapering, three times as wide at apex as at the base, nearly twice as long as the apex, not canaliculate; 2nd segment rather wider than long. Legs moderate. Wings without an areolet; external radial nervure scarcely incurved; transverse anal divided in or a little below the middle.

Black; mouth, clypeus, cheeks, face except a central black line, front coxæ, front trochanters greater part, tegulæ, a spot before, a line beneath the wings, and marks on sutures of mesopleuræ, yellow. Abdomen red; 1st segment black; a dorsal mark on the middle of the 2nd segment, 4th more or less, and remaining segments fuscous; apex paler. Front and middle legs red; middle femora fuscous behind; hind legs black; hind tibiæ red, apex fuscous-black. Stigma fuscous.

Var. Face with two spots by the side of the orbits, on each side of the clypeus, and two spots on the cheeks yellow, the yellow coxæ black at the base, the yellow marks on the thorax less distinct, those on the mesopleura absent.

Male. Length about 5 mm.

Two males taken at Brundall, near Norwich, May, 1882.

Grypocentrus bipunctatus, n. s.

Niger, capite rufo maculato, pedibus posticis ex parte fuscis.

Face transverse; clypeus distinctly separated by an impressed line from the face; apex subtruncate, margin depressed; middle of face produced; lower tooth of mandibles rather longer than the upper one; base of mandibles almost touching the eyes; sides of head

behind the eyes somewhat oblique; antennæ as long as the body; head subopaque, very finely punctate. Thorax longer than high, subopaque, very finely punctate; mesonotum rather distinctly trilobed; scutellum triangular and elevated; metathorax opaque, finely punctate; 5 superior areæ indistinctly defined; superomedial area pentagonal, longer than wide; mesopleura shining, almost obsolete punctate. Abdomen ovate, shining, quite as wide as the thorax; apex of 3rd segment the widest, about as long as the head and thorax; 1st segment petiolated; spiracles just beyond the middle; post-petiole gradually tapering from base to apex, the latter wide, nearly four times as wide as the middle of the petiole; a small oval depression in the middle; remaining segments transverse, with rather scattered white pubescence; aculeus slightly projecting, turned upwards. Legs moderate. Areolet of wings sessile; external radial nervure slightly curved; transverse anal nervure divided a little below the middle.

Black; mouth, mandibles, greater part of clypeus, a short line on each side of the face just above the antennæ, and a round spot behind the eyes above, and base of antennæ beneath, fulvous-red; antennæ fuscous; abdomen obscurely piceous, margins not pale. Legs fulvous; coxæ black, apex of front pair pale; hind femora piceous; apex of hind tibiæ and tarsi black, base of latter red; apex of front and middle tarsi fuscous. Tegulæ pale; stigma dilute fuscous. Female. Length, 3·5 mm.

One female taken at Wimbledon, Surrey, July, 1880.

Rhæstus lativentris, Holm.

Holm., Mon. Try. Suec., 384, ♀.

A female taken in the neighbourhood of Norwich the end of May, 1882.

These two species belong to *Grypocentrus*, Ruthe, which genus Thomson has divided into three genera, this and the next two.

Grypocentrus incisulus, Ruthe.

Holm., Mon. Try. Suec., 184, ♂, ♀.

A small *Tryphon*, which I took to be this species (Trans. Ent. Soc. Lond., 1882, 158), Prof. Thomson says is the closely-allied *G. albipes*, Ruthe, or a new species.

Lathrolestus unguaris, Thoms.

Thoms., Opusc. Ent., 918.

This species I thought was *Grypocentrus clypeatus*, Zett. Prof. Thomson says it is the above species.

Prionopoda glaber, n. s.

Niger, abdominis medio rufo, pedibus anticis rufis, coxis trochanteribus et pedibus posticis maxima ex parte nigris, facie feminis flava.

Smooth, shining, impunctate, with only hair-pits, except the face, which has shallow somewhat scattered punctures; pubescent; apex of clypeus subrotund; lower tooth of mandibles longer than the upper; head somewhat tumid, not so much so as in *P. stictica*; sides of head scarcely oblique; antennæ as long as the body; 2nd joint of flagellum twice as long as the 1st in the female, more than twice as long in the male. Thorax: parapsides scarcely indicated; scutellum hardly elevated; mesopleura punctate; disc smooth; metanotum with three distinct superior areæ; supero-medial area elongate, somewhat bulging in the middle, most frequently closed behind; postero-medial generally with a central longitudinal keel. Abdomen of female elongate-ovate, apex of 3rd and 4th segments the widest; the male subcylindrical, 2nd, 3rd, and 4th of equal width, about one-half longer than the head and thorax; female about as wide as the thorax, male narrower; 1st segment of both sexes the same length, subpyriform; spiracles not projecting, the apex about three times as wide as the base; petiole gradually tapering; in the male the segment is about two and a half times as long as the width of the apex, in the female four times; the segment is more slender in the female than in the male, very slightly curved; 2nd and 3rd longer than wide; 4th transverse. Legs somewhat slender; claws with short not close pectinations. Wings with a petiolated somewhat oblique areolet; external radial nervure curves first slightly outwards and then inwards; transverse anal nervure divided below the middle about one-third from the bottom.

♀. Black; mouth and face yellow; flagellum pale beneath; abdomen red; 1st segment black, apical segments dusky. Legs: coxæ and trochanters black; front and middle femora red, paler at the apex, dusky at the base; front and middle tibiæ and tarsi yellow; last joint of middle tarsi dusky; hind legs black; apex of trochanters, extreme base of femora, and basal half of tibiæ and

1st joint of tarsi, yellowish red. Wings smoky; stigma fuscous; tegulæ yellowish, piceous at the base.

The male differs from the female in having the face and antennæ black, hind legs entirely black, and tegulæ piceous. Abdomen: 2nd, 3rd, and 4th segments red; 2nd sometimes with a dusky spot on the back.

Male and female. Length about 9 mm.

Norwich, end of July, 1879.

I believe these are the two sexes of the same insect, although the colour of the face is the reverse of what is generally the case; usually the male has the yellow face, and the female black.

PHRUDUS, n. g.

Caput supra subquadratum. Clypeus rotundatus, discretus. Antennæ fere corporis dimidio longitudine, filiformes. Ocelli oblongi. Thorax robustus gibbulus, scutello vix elevato, metathorace altitudine multo brevior, areis completis, spiraculis minutis circularibus. Abdomen petiolatum, ovatum, glabrum. Segmenta 2—7 transversalia. Segmentum primum fere equilaterum, curvatum, latitudine triplo longiore, aculeo segmento primo dimidio brevior. Pedes mediocres, femoribus anticis validiusculis, unguis tarsorum pectinatis. Alæ areola instructæ, 5-zona.

This insect is very peculiar. I can find nothing described like it. In general appearance it is not unlike a small *Phygadeuon*, but the pectinated claws and the antennæ clearly take it from this genus; the pectination of the claws is like that of the genus *Paniscus*, whilst the antennæ are like those of *Thersilochus*, and, viewed sideways, it resembles this latter, but the shape of the head, form of the areolet of the wings, as well as the arrangement of the costæ on the metathorax, will prevent its being placed in this genus.

Thomson thinks its proper place is in the *Tryphonidæ*, and should come under his *Ctenopelmidæ*; I am indebted to him for the suggested names.

Phrudus monilicornis, n. s.

Niger, pedibus rufis, coxis nigris.

Head shining and smooth, seen from above subquadrate; antennæ not longer than the head and thorax; joints of flagellum moniliform, joints scarcely quadrate, the last one conical, twice as

long as wide, 16 in number. Thorax smooth and shining, no parapsides, rather longer than high; metathorax short; areæ 5 complete; supero-medial are equilateral triangle in female, hexagonal in the male, closed behind; postero-medial hexagonal; wing large in comparison to insect. First segment of abdomen linear, but little broader at the apex than at the base, nearly four times as long as wide, with a central furrow; spiracles not projecting; remaining segments transverse, 3rd the widest in the female, 3rd and 4th of equal width in the male; base and apex of equal width, as wide or a little wider than the thorax in the female, the same width as the thorax in the male; aculeus about one-third the length of the 1st segment. Legs rather stout; claws strongly pectinated. Areolet of wings pentagonal or subpentagonal; recurrent nervure received almost in the middle; transverse anal not divided.

Black; legs palish red, coxæ black; scape of antennæ brownish red; tegulæ and stigma brown. Male and female. Length, 3.5 mm.

Taken by Dr. Capron at Shiere, who has kindly given me the female.

Perilissus triangulatus, n. s.

Abdominis medio rufo, pedibus posticis maxima ex parte nigris, facie flavo maculato.

Subopaque; head transverse, rather wide behind the eyes, side of head behind the eyes parallel in the female, wider behind than in front in the male; antennæ as long as the body; 1st joint of flagellum one-third longer than the 2nd; clypeus not separated from the face, apex widely rotundate, slightly elevated; lower tooth of mandibles rather longer than the upper; mandibles somewhat thickened, face transverse, eyes not touching the mandibles by the width of the base of the latter, face closely and distinctly punctate as in *P. filicornis*. Mesonotum finely and closely punctate, slightly trilobed in front; scutellum scarcely elevated, margined at the base only; mesopleura finely punctate, with glistening white pubescence; a distinct perpendicular costa behind the front coxæ; metathorax finely rugose; supero-medial area subdistinct, elongate, or entirely absent. Abdomen subclavate, scarcely petiolated; spiracles placed before the middle, one-third from the base; petiole about as broad as long, slightly narrowed at the base; post-petiole longer than wide, a little wider at the apex than at the base, more the shape of *Mesoleius* than *Perilissus*, scabrous, apex smooth; a distinct canal runs almost to the apex

without prominent keels; remaining segments transverse; the 2nd of the male subtransverse; aculeus just projecting. Legs somewhat slender; calcaria of hind tibiæ one-third the length of the 1st tarsal joint. Areolet of wings small, suborbicular, petiolated; outer nervure sometimes incomplete, external radial straight, incurved at the extreme apex; transverse anal almost opposite, divided below the middle, one-third or one-fourth from the bottom.

Black; mouth, mandibles, clypeus, and a triangular mark on each side of the face below the antennæ and scape beneath, reddish yellow in the male, and reddish in the female; base of flagellum reddish (female), beneath in the male. Abdomen dull red; female apex of 5th, 6th, and 7th entirely black, male 2nd, 3rd, and 4th paler red; remainder black. Front and middle legs red; coxæ and trochanters black, apex of latter pale; hind legs black; hind tibiæ fuscous-red, base and apex female, apex male, black. Stigma fusco-stramineous, base paler, squamulæ whitish. Male and female. Length, 9 mm.

Taken by Mr. Billups at Peckham and Dulwich, May 30th, 1885

Mesoleius caninæ, n. s.

Niger, pedibus rufis, tibiis et tarsis posterioribus nigris.

Head finely reticulate, transverse, slightly oblique behind the eyes; clypeus separated from the face, apex truncate, depressed in the middle. Antennæ as long as the body. Thorax rather short and stout, parapsides distinct; mesonotum somewhat shining, finely and rather closely punctate; mesopleura smooth and shining, without sculpture; upper part of metathorax rather short; supero-medial area distinct, the superior surface separated from the posterior surface by a prominent transverse ridge; postero-medial area large, well-defined, shining, and finely reticulate. Abdomen short and broad, as wide as the thorax, and scarcely more than three times the length of the width of the apex of the 2nd segment, which is the widest part; 1st segment gradually widening from base to apex, sides slightly curved outwards, about one-third longer than the width of the apex; basal fovea not closed at the apex, but continued in two well-developed keels to beyond the centre of the post-petiole; remaining segments transverse; the 2nd and 3rd about twice as wide as long; abdomen subopaque, reticulate; apical segments rather smooth and shining. Legs rather stout. Wings without an areolet; transverse anal nervure, anto-furcal, *i. e.*, the upper termination, nearer the thorax than the lower, divided below the middle.

Clypeus, mandibles, scutellum, and post-scutellum reddish yellow; legs red, hind tibiæ and hind tarsi black; abdomen of female has the last segments with a thin pale apical margin; the male has the apex of 1st and 2nd segments obscurely pale. Male and female. Length, 5—5.5 mm.

I bred a single male and female from the larvæ of the pear-tree sawfly, *Eriocampa caninæ*, taken from a garden in Norwich, which has since unfortunately been built upon. In general appearance the insect, as to size and shape, is not unlike *Erromenus frenator*; legs rather more slender.

Erromenus (Trichocalymma, Foerst.) plebejum, Wolds.

Wolds., Beit. z. Kent. d. u. St. Petersburg, vork. Ichn., 1877, 35, ♂.

Taken by Mr. T. R. Billups at Dulwich, June 11th, 1885.

Acrotomus xanthopus, Holm.

Holm., Mon. Try. Succ., 223, 2, ♂.

Mr. J. E. Fletcher took this near Worcester in 1873, at the end of October.

Bassus bizonarius, Gr.

Gr., I. E., iii., 350, 23, ♂.

A specimen of this *Bassus* was taken by Mr. Billups at Peckham, May, 1885.

Bassus scutellaris, n. s.

Abdominis medio rufo, dorso nigro-maculato; scutello flavo, pedibus flavis, areola nulla.

Forehead smooth and shining; antennæ slender, about the length of head and thorax; apex of clypeus truncate; the middle of the clypeus has three longitudinal depressions, which occupy nearly the whole area of it; the centre one is narrow like a furrow, the lateral ones are about as broad as long; a distinct triangular elevation runs down the face from the base of the antennæ to the clypeus, as wide as the antennæ above, terminating in a depression above the clypeus. Thorax smooth and shining, with indications of scattered punctures; supero-medial area of metathorax complete, longer than wide. First segment of abdomen long and slender; petiole quadrate, rather wider than the post-petiole, and about

one-third longer than it; sides of post-petiole almost parallel, apex rounded, margins keeled. and an oblong pit in the centre, shining, with somewhat coarse irregular aciculations; remainder of the abdomen smooth and shining; base of 2nd segment between the distinct thyridii coarsely aciculate, extending one-third the length of the segment (this is nearly twice as long as wide), the 3rd subquadrate, the remaining ones transverse. Legs slender. Wings without an areolet; transverse anal nervure divided in the middle.

Mouth, apex of clypeus, elevation of face, greater part of base of antennæ beneath, squamulæ, tubercles, base of wings, scutellum, yellow. Legs, coxæ, and trochanters yellow; base of posterior joint of hind trochanters fuscous; rest of legs yellowish red; apex of hind tibiæ and apical joints of hind and middle tarsi slightly fuscous. Stigma dilute fuscous. Abdomen: apex of 2nd segment, the 3rd, 4th, 5th, and 6th chestnut-red, with a large dorsal black mark at the base, occupying almost all the back of the segment. Male. Length, 5 mm.

Taken by Mr. Bignell in the neighbourhood of Plymouth in 1884.

Bassus abdominalor, n. s.

Niger, macula parva media faciei, et scutello apice, flavo; pedibus rufis, tibiis posticis maxima ex parte tarsisque posticis nigris, metathorace, segmentis primo et secundo abdominis rufo maculato.

Head opaque, finely punctated; apex of clypeus rotundate, slightly immarginate in the middle, distinctly separated from the face. Antennæ about two-thirds the length of the body. Metathorax without a trace of supero-medial area; the lateral angles of the metathorax terminate behind more prominently than usual, giving the upper part a square appearance, but transverse. Abdomen longer than the head and thorax. First segment of abdomen about one and a half times longer than wide, slightly tapering from behind the projecting spiracles to the apex of the segment; remaining segments transverse, compressed towards the apex; 1st segment opaque, scabrous, with indications of longitudinal aciculations; 2nd segment transverse, scabrous, at the base with a deep transverse depression on each side, and between them a shallower longitudinal groove, distinctly aciculated; remaining segments subopaque. Wings without an areolet; transverse anal nervure divided below the middle.

Black; mouth and greater part of mandibles yellow; apex of scutellum with a transverse yellow line; base of wings, tubercles, and squamulæ yellow. Metathorax with a large dull red spot or

each side. First segment of abdomen dull red, with a black central blotch; 2nd the same, but central blotch larger. Legs red; base of front coxæ black, apex of coxæ and trochanters yellow, apex of middle trochanters yellow; hind tarsi black; hind tibiæ black, extreme base whitish, merging through dull red into the black. Stigma somewhat pale brown, extreme base pale. Female. Length, 6 mm.

One female taken by Mr. G. C. Bignell near Plymouth in 1884.

Ephialtes strobilorum, Ratz.

Pimpla strobilorum, Ratz., d. Ichn. Forst., ii., 94, ♀;

Ephialtes strobilorum, Tasch., Zeits. Ges. Nat., 1863, 254, ♀; Thoms., Opusc. Ent., 744.

Mr. Bignell bred both sexes from *Coccyx strobilorum*, end of May and beginning of June.

Pimpla nigriceps, Tasch.

Tasch., *l. c.*, 260, 24, ♀.

Mr. Thouless took a *Pimpla* which agrees with this species in general coloration and structure, but is only 5 mm. instead of 11 mm., the size given by Taschenburg; this is not of much consequence, as many of the species of *Pimpla* vary much in size. In this specimen the metathorax and breast are black; the transverse anal nervure is divided a little below the middle.

Taken at Drayton, 1885.

Glypta ceratites, Gr., ? var.

Mr. W. H. B. Fletcher has bred about forty specimens of a *Glypta* which Prof. C. G. Thomson says is this species. In every specimen the same coloration of the legs exists, *viz.*, legs red, coxæ black, sometimes base of trochanters, hind femora at the knees, base and apex of hind tibiæ and hind tarsi fuscous, extreme base of joints of latter more or less pale; abdomen varies from incisions reddish to apex of 1st, 2nd, and 3rd segments somewhat widely red. Except for the coloration I am unable to detect any structural difference. The true *ceratites* has the extreme base of hind tibiæ pale or whitish. These were bred from *Euchromia flammeana*

from Rannoch. I have also received the same species from Mr. A. F. Griffith from Sunderland.

Glypta parvicornuta, n. s.

Niger, pedibus rufis, tibiis posticis apice et ante basin fuscis, basibus pallidis, fronte subcornuta; aculeo abdominis longitudine.

Punctate; head oblique behind the eyes; antennæ more than half the length of the body; clypeus very thinly pubescent; forehead somewhat coarsely and closely punctate; a minute horn above the antennæ. Mesonotum distinctly trilobed in front; areæ of metathorax complete; mesopleura punctate; supero-posterior surface smooth and shining; 2nd and 3rd segments of abdomen longer than wide, keels on 1st distinct, extending to the middle; aculeus as long as the abdomen, claws pectinated. Wings without areolet; transverse anal nervure divided about one-fourth from the bottom.

Black; clypeus pale; legs red; base of hind tibiæ pale, apex and before the base fuscous; hind tarsi fuscous; base of joints pale; tubercles and tegulæ pale; stigma palish brown.

One female bred by Mr. E. A. Atmore; host unknown.

It is very like *ceratites* and *consimilis* in general appearance, but differs in having the forehead more coarsely punctate, and in having a much shorter horn than *ceratites*.

Glypta similis, n. s.

Niger, pedibus rufis tibiis posticis basi pallidis, apice et ante basin fuscis, aculeo abdominis longitudine.

Punctate; head wider than long; pubescence on clypeus long and dense; forehead coarsely punctate; antennæ of male not quite so long as the body, of female about two-thirds the length of body; head behind the eyes oblique, sides somewhat rounded; areæ of metathorax distinct and complete, shining; lateral areæ with somewhat scattered punctures; medial area almost without any punctures; keels of abdomen somewhat distinct, indications of them extending two-thirds the length of the segment; 2nd and 3rd rather wider than long; aculeus about as long or a little longer than the abdomen, claws pectinated. Wings without an areolet; transverse anal nervure divided about one-fourth from the bottom.

Black; clypeus yellow; flagellum fuscous above, rufous beneath; abdomen black, incisions reddish; legs red; base of hind tibiæ whitish, apex and before the base fuscous; hind tarsi fuscous; base

of joints pale; squamulæ pale yellow; tubercles pale piceous; stigma pale testaceous. Male and female. Length, 9·5 mm.

Bred by Mr. W. H. B. Fletcher from *Ephippiphora scutellana*, Worthing.

Very like *G. consimilis*, but the head is wider, forehead coarsely punctate, clypeus densely pubescent, and stigma paler.

Glypta trochanterata, n. s.

Niger, pedibus rufis, trochanteribus posticis nigris, tibiis posticis basi pallidis, apice et ante basin fuscis, abdomine rufo cingulato, aculeo abdominis longitudine.

Punctate; head behind the eyes oblique; antennæ of male as long as the body, of the female one-fourth less than the length of the body; forehead not cornuted, with rather scattered punctures; metathorax without or with faint indications of areæ. Second and 3rd segments of abdomen transverse; keels on the 1st segment distinct only at the base; aculeus about as long as the abdomen. Wings without an areolet; transverse anal nervure divided below the middle about one-fourth from the bottom; claws with a few coarse pectinations.

Black; apex of clypeus piceous; abdomen with a distinct red band at the apex of 1st, 2nd, and 3rd segments; legs red; hind trochanters entirely, front and middle ones sometimes more or less, black; base of hind tibiæ whitish, apex and before the base dark; hind tarsi dark; base of joints pale; squamulæ pale yellow; stigma dilute fuscous. Male and female. Length about 6·5 mm.

Norwich, middle of June; swept off Ling.

Size and shape of *G. lineata*, Des., but has the thorax and hind trochanters entirely black, areæ of metathorax less distinct, and transverse anal nervure divided further below the middle; the clypeus of *lineata* is densely pubescent also, as in this species. This is the insect I thought at first was a black var. of *G. lineata*, Trans. Ent. Soc. Lond., 1884, 433; but I have taken several of both sexes this year, and find the above differences persistent, and I believe it to be a good species.

Lissonota leptogaster, Holm., ♀ ?

Mon. Pimp. Suec., 55, 18, ♂.

I have taken near Norwich a *Lissonota* male which agrees exactly with the description of the above. Last

autumn I again met with several males, and with them a female, which is exactly like the male, except that the yellow marks on the face and thorax are absent; the aculeus is very short, about the length of the 1st segment of the abdomen, in this respect similar to Holmgren's short description of the female of *L. caligata*. I do not feel at all certain that they are not one and the same species; Gravenhorst only described the male, and Holmgren was the first who found the female for it, and it is not impossible that he may be mistaken, and that his female *caligata* is really the female of *leptogaster*.

Lissonota brachycentra Gr.

Gr., I. E., iii., 56, 30, ♀.

Head and thorax punctate, interstices finely reticulate; superior surface of metanotum not separated by a transverse ridge; abdomen very finely transversely aciculate, with indistinct indications of punctures; 2nd and 3rd segments rather longer than wide; transverse anal nervure divided below the middle, but this varies; it may be about one-third from the bottom or rather nearer to the middle. Aculeus about as long as the 1st segment of the abdomen.

Black; inner orbits with a narrow yellow line, this shorter in the female than in the male; clypeus, mandibles, and palpi reddish yellow, more red and less in extent in the female; mesonotum of male with two small yellow spots in front against the parapsides; base of wings, squamulæ, and tubercles yellow; stigma pale testaceous; abdomen reddish brown, incision of 2nd segment and sometimes back of base of 3rd paler; legs red; greater part of hind tibiæ and hind tarsi slightly fuscous. Male and female. Length about 7 mm.

This insect is very much like the previous one (*L. leptogaster*), but differs in the following particulars: the abdomen is decidedly brown, not black, and the transverse ridge on the metathorax is absent; in *leptogaster* the squamulæ are red and the stigma brown, and the transverse anal nervure is divided almost at the bottom; the face of the only female I have taken has not the yellow line. I know of the description of only two species of *Lissonota* with aculeus as long as the 1st segment; the one is Holmgren's *L. caligata*, and Thomson's *L. genalis*, which is much like the former, but has a yellow mark on the cheeks, and hind knees blackish. Several specimens of

both sexes were bred by Mr. Harwood, of Colchester; host and locality uncertain. Mr. Bignell has also bred a female from *Anticlea badiata*.

Lissonota rufomedia, n. s.

Niger, pedibus rufis, trochanteribus posticis nigris, tibiis posticis fuscis; capite thorace scutelloque flavo ♂, rufo ♀, notato; aculeo abdominis longitudine.

Finely reticulate; head punctate; face transverse, rather wider than the forehead; head transverse, oblique behind the eyes; antennæ of female as long as the body, male a little longer. Mesonotum punctate; mesopleura punctate, with a few punctures on the upper part of the disc, which is subopaque; metathorax longer than wide, subrugosely punctate, the punctures larger and less close than on the mesonotum, with a slight longitudinal depression. Abdomen: 1st segment more than twice as long as wide, more slender in the male than in the female, and proportionably longer, longitudinally depressed in the female, not so in the male; the whole abdomen of the female with very fine somewhat transverse striations; apical segments shining and almost free from sculpture; 2nd and 3rd segments distinctly longer than wide. Male: 1st segment at the base transversely striated; apical two-thirds with rather coarse somewhat scattered punctures; remaining segments subopaque, punctate; apex of abdomen pubescent; 2nd and 3rd segments distinctly longer than wide; 4th quadrate; aculeus as long as the abdomen. Legs slender. Wings with an areolet, which varies from subpentagonal to a petiolated triangle; outer nervure sometimes very faint; transverse anal nervure divided below the middle one-third or one-fourth from the bottom.

♀. Black; palpi, part of mandibles, and clypeus reddish; an obscure pale spot on each side of the vertex, an obscure reddish line on the side of the prothorax, and a spot in front of the wings; middle of the scutellum with a transverse red blotch, often absent; apex of first three segments thinly red. Legs red; hind trochanters blackish, front and middle ones more or less so; hind tibiæ fuscous, slightly reddish in the middle; hind tarsi fuscous. Tegulæ piceous; stigma fuscous.

♂. Differs from the female in having the mouth, clypeus, facial orbits, and a spot on each side of the vertex, marks on anterior sutures of pleuræ, a mark on shoulders, a line beneath the wings and lateral marks on the scutellum, greater part of front and middle coxæ (these sometimes blackish at the base), front and middle

trochanters (these sometimes black marked), and squamulæ, yellow hind coxæ and trochanters black, sometimes yellow at the apex.

Male and female. Length about 7 mm.

Bred by Mr. W. H. B. Fletcher from *Eudora murana*, Rannoch; *Crambus contaminellus*, Worthing; and *Eudora mercurella*, Worthing.

The scutellum of the female is often entirely black, and all the yellow marks are sometimes all but absent in the male; one male has the yellow spots replaced by red ones. I sent this species to Prof. C. G. Thomson, and he returned it as *L. biguttata*, Holm., or what he considered that species. I think it cannot be Holmgren's species, because he says that the segments after the 1st are somewhat wider than long, whereas in this species the 2nd and 3rd are decidedly longer than wide; and besides, Holmgren makes no mention of the black hinder trochanters. These two points are present in over forty specimens of both sexes which have been bred by Mr. Fletcher.

Lissonota nitida, n. s.

Abdominis medio, pedibusque rufis, trochanteribus posticis nigris, aculeo abdominis longitudine.

Somewhat shining; face and forehead finely punctate, interstices reticulate, between the antennæ smooth and just above finely rugose; head transverse, behind the eyes oblique; antennæ about as long or a little longer than the body, filiform, not attenuate at the apex; apex of clypeus rounded. Mesonotum not trilobed, finely punctate, interstices almost obsoletely reticulate; mesopleura the same, reticulations more distinct; a few punctures on disc; metathorax somewhat finely rugoso-punctate, slightly depressed in the middle. First segment of abdomen about two and a half times as long as the width of the apex, with fine transverse aciculations; 2nd rather longer than wide; 3rd rather wider than long, almost free from sculpture (with strong magnifying the same sculpture may be seen as on the 1st); aculeus about as long or a little longer than the abdomen. Areolet of wings triangular, narrow, and sessile; transverse anal nervure opposite, divided one-fourth from the bottom.

Black; apex of clypeus pale yellowish. Apical one-fourth of 1st segment of abdomen, 2nd, 3rd, 4th entirely, bright red. Legs red; hind trochanters black, anterior ones fuscous; apex of hind tibiæ and tarsi slightly dusky. Cocoon thin, white, and semi-transparent. Female. Length about 6.5 mm.

One female bred from *Botys asinalis*.

Like *L. bellator* and *commixa*, but stouter and more glabrous, especially the abdomen, which is differently sculptured.

Lissonota subaciculata, n. s.

Abdominis medio, pedibusque rufis, coxis fusco-nigris, segmento primo apice aciculato, aculeo corporis longitudine.

Head and thorax punctate, interstices finely aciculate; apex of clypeus rotundate; head transverse, sides behind the eyes oblique; antennæ shorter than the body, filiform. Mesonotum not trilobed; mesopleura shining, finely and rather closely punctate; disc shining, with very few scattered punctures; metathorax transversely rugose in the middle, punctate at the sides, slightly depressed in the middle; apical costa distinct. Abdomen shining; 1st segment longer than hind coxæ, transversely depressed before the apex, towards the apex aciculate; 2nd and 3rd segments longer than wide, obsolete reticulate, not punctate; aculeus as long as the body. Areolet of wings petiolated, about as long as wide; transverse anal nervure divided one-third from the bottom. Legs moderate; base of claws of hind tarsi slightly pectinated.

Black; apex of clypeus yellow; also base of wings and tegulæ; apex of 1st segment of abdomen and all of 2nd, 3rd, and 4th red, the latter with a narrow black band before the apex. Legs red; coxæ black, red at the apex; hinder pair dull red, black at the base; trochanters black; hind tibiæ duller than the femora; middle and hind tarsi reddish brown. Stigma fuscous, slightly paler at the base. Female. Length, 7 mm.

One female sent to me by Mr. W. H. B. Fletcher.

It comes nearest to *L. Fletcheri*, m., but differs in the length of the aculeus, and in the 2nd and 3rd segments of the abdomen, which are shining and not opaque; the hind coxæ partly red.

Lissonota lineata, Gr.

Gr., I. E., iii., 82, ♂.

Gravenhorst described four male species of *Lissonota*, which are very much alike in coloration, all having pale dorsal lines on the mesonotum, black coxæ varied with yellow, and a fifth species with red coxæ varied with yellow, *L. parallela*; of these four species, Taschenburg says *perspicillator* is a var. of *parallela*, and *argiola* and *lineata* are varieties of *bellator*; Gravenhorst says *insignita*

is perhaps the male of *verberans*. Mr. W. H. B. Fletcher and Mr. G. T. Porritt have bred six females and four males from *Crambus contaminellus*; the males agree exactly with *L. lineata*, Gr., and the females are exactly coloured as the males, except that all have black coxæ, not varied with yellow, and one male also has no yellow on the coxæ, but the other three are variegated with yellow: the yellow marks on the female are less distinct than in the male, and none of the former have any yellow marks on the abdomen; the whole ten have the sides and apex of the scutellum and a line on the post-scutellum yellow; this species is the only one of four in which Gravenhorst gives the post-scutellum yellow-marked. The 2nd and 3rd segments of the abdomen are a little longer than wide; in a male which I take to be *insignita* the 2nd and 3rd segments are much longer than wide (about one-third). Not one of the ten exhibit any trace of red on the thorax, as in *parallela*, of which this was considered a variety, and also the coxæ are differently coloured. The aculeus is as long as the body. The description of *lineata* is very like that of *perspicillator*, and whether they are only varieties I am unable to say.

Lissonota carbonaria, Holm.

Holm., Mon. Pimp. Suec., 54, 15, ♀.

Mr. W. H. B. Fletcher has bred a female *Lissonota*, which I believe is this species, from a *Tortrix* pupa found at Abbott's Wood, Sussex.

Schizopyga circulator, Panz.

Ichneumon circulator, Panz., Faun. Fasc., 79, tab. 12;
Schizopyga tricingulata, var. 2, 3, Gr., l. E., iii.,
 129, 69, ♂; *S. analis*, Gr., l. c., 130, 70, ♀;
Ichneumon circulator, Gr., l. c., 10, 59.

The Rev. T. A. Marshall sent me the male and female of the above insect, and referred me to Gravenhorst's copy of Panzer's description, from which there is no doubt but that Panzer's *I. circulator* is the same insect that Gravenhorst described as *S. analis*, nor is there any doubt but *S. tricingulata*, vars. 2 and 3, is its male: so *S. circulator*, Panz., must supersede *S. analis*, Gr.

